Claims:

1. A method for the recording and estimation of the weight of fish and other aqueous organisms, with multiple cameras, particularly CCD-cameras, which records pictures in different directions of fish passing the camera in a transfer conduit, as the fish is illuminated from a light source, and where the signals of the camera are processed in a computer, to estimate a value for the volume of each fish, for creating a value for the weight of the fish, **characterized in** that the fish is illuminated by at least two light sources and is recorded by at least two CCD-cameras, where both the light sources and the CCD-cameras are distributed around the circumference of the transfer conduit, and that reflected light and/or shadow pictures from generally opposite sides of the fish are recorded, creating a compound image recording of the transverse dimensions of the fish in several positions over its length and around its circumference, which are used as a base for the estimation of the weight of the fish.

2. A method according to claim 1, **characterized in** that there is provided an illumination and a recording of reflection and/or shadow area across the transfer conduit, by means of a light source and a CCD-camera, said CCD-camera being arranged at the light source and/or diametrically opposite.

3. A method according to claim 2, **characterized in** that the illumination and the recording are made cyclically around the fish.

4. A method according to claim 3, **characterized in** that the sector recordings from different directions are used to estimate the cross- sectional area of the fish.

5. A method according to claim 4, **characterized in** that recordings are made in two cross planes, with a mutual distance in the direction of movement of the fish.

6. A method according to claim 3, **characterized in** that the reflection from the fish is recorded by two further CCD-cameras which are arranged symmetrically on each side of the light source, as the scanning is rotated cyclically.

7. A method according to claim 1, **characterized in** that the fish is illuminated around the circumference with a light line, as this light line is recorded by means of a series of CCD-cameras, arranged around the transfer conduit.

8. A method according to claim 7, **characterized in** that the CCD-cameras are slanted and directed towards the plane for the light line, to read the arced reflection lines on the fish, as a base for the contour reading.

9. A device for processing measurements on fish (11) or other aqueous organisms moving in a transfer conduit (12), at least two cameras, especially CCD-cameras (10), being arranged at the wall of the transfer conduit, to record pictures of the fish, **characterized in** that it comprises at least two light sources (14), evenly arranged around the circumference of the transfer conduit (12) and at least two CCD-cameras (10), arranged in the same cross plane and which are evenly arranged around the circumference, as the light sources (14) and the CCD-cameras (10) are connected with a control circuit, provided to activate the light sources and the camera.

10. A device according to claim 9, **characterized in** that the control circuit is provided to activate at least one light source and at least one CCD-camera (10) at a time, in a revolving sequence.

11. A device according to claim 10, **characterized in** that the control circuit is provided to activate one light source, one CCD-camera at the light source, and one CCD-camera on each side of the light source and preferably a diagonally opposite CCD-camera, for each recording sequence, and to move the activation by one unit for each step, to have a spiral scanning of the fish in motion.

12. A device according to claim 8, **characterized in** that it comprises an annular light source (22) which surrounds the transfer conduit (12) and marks a narrow light line (24), on the outside of a passing fish (11).

13. A device according to claim 12, **characterized in** that lasers, having lenses creating light lines, are used as light sources.

14. A device according to any one of claims 12 or 13, **characterized in** that the CCD-cameras are slanted and directed towards the plane of the light slot, to record the light lines three-dimensionally.

15. A device according to claim 14, **characterized in** that the control circuit is provided to assemble the scanning results to provide a three-dimensional picture of the fish, as a base for the volume- and weight estimations.

16. A device according to any one of claims 9-13, **characterized in** that it comprises multiple CCD-cameras (10) with adjoining light sources (14), arranged around the circumference of a transfer conduit (12), to be able to illuminate and record one or several fishes pass through the transfer conduit (12), where each CCD-camera (10) and light source (14) is connected to an optical signal processor (OSP) and further to a sectorial data processor (SDP), and all the sectorial data processors are connected to a communication unit (CU) and further to a computer for estimation of the measured data.

17. Device for the recording and estimation of fish and other aqueous organisms, **characterized by**

a) by means of a first light source illuminate the inside of a transfer canal for fish,

b) by means of a CCD-sensor, measure the reflected light the from the first light source in the form of one or several angle sectors of the fish, arranged in the same area as the first light source, and measure the light in the form of one or several angle sectors for the fish from the first light source with a second CCD-sensor, arranged on the opposite side of the first CCD-sensor,

c) by means of a next light source, illuminate the inside of the transfer canal, then repeat step b), and then repeat step c) for a desired number of measurements,

d) estimate the speed of the fish by dividing moved distance on time,

e) by means of the measured angle sectors, estimate a profile of the fish,

f) estimate the total volume and weight of the fish by using the profile.